



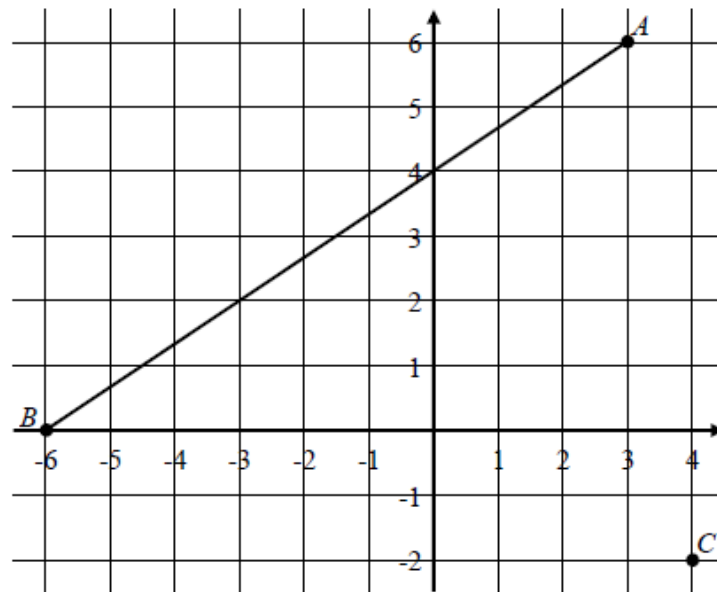
**Maths
Junior Certificate
Higher Level**

**Past Exam Questions on
PM Co-ordinate Geometry**

Q12 2013 Paper 2

Question 12

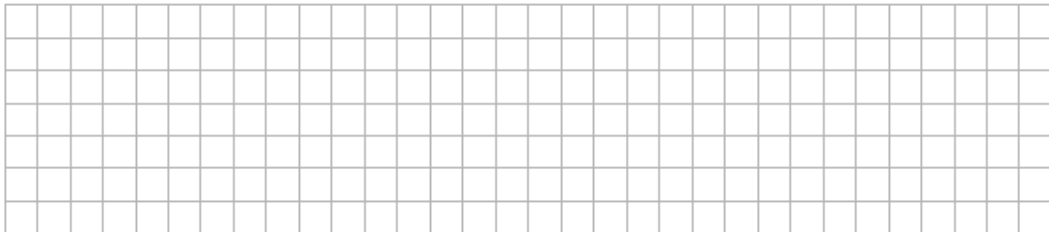
(Suggested maximum time: 20 minutes)



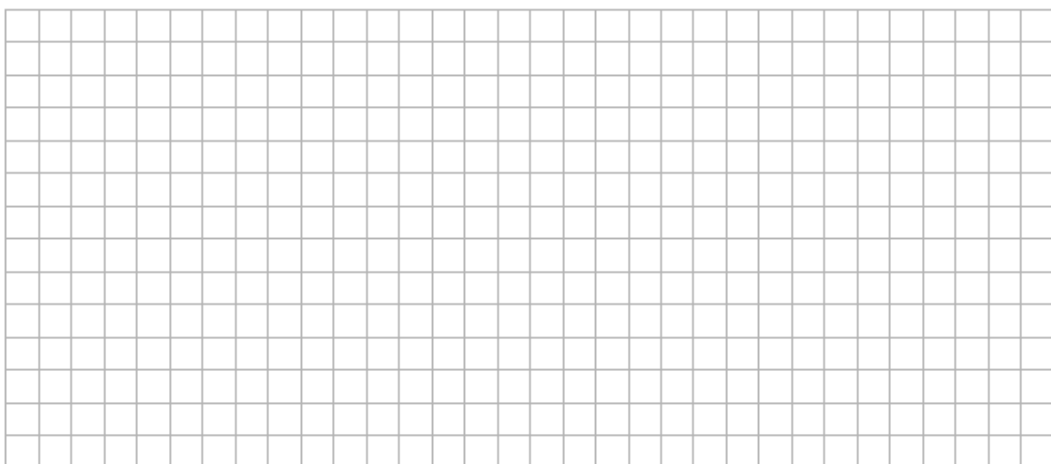
- (a) Write the coordinates of A , B and C .

$$A (\quad , \quad) \quad B (\quad , \quad) \quad C (\quad , \quad)$$

- (b) Find the co-ordinates of D , the mid-point of $[AB]$.



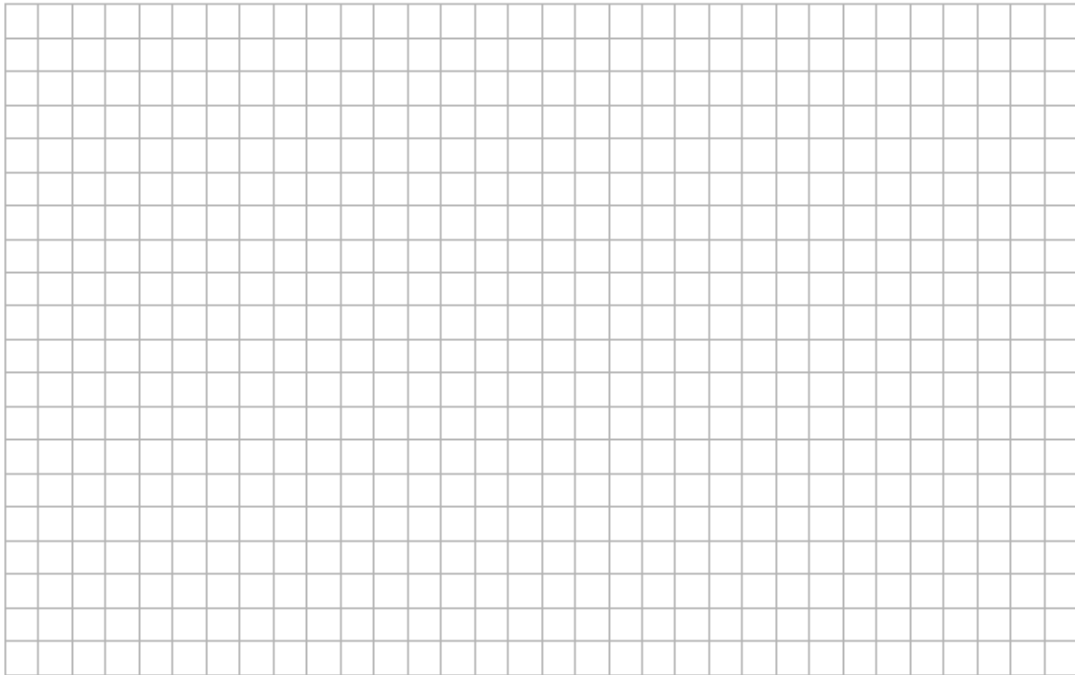
- (c) Find the equation of the line AB .



- (d) Find the equation of the line through C , perpendicular to AB .



- (e) Let E be the point where this perpendicular line through C intersects AB . Calculate the coordinates of the point E .



- (f) Which is the shorter distance, $|CD|$ or $|CE|$? Find this distance.



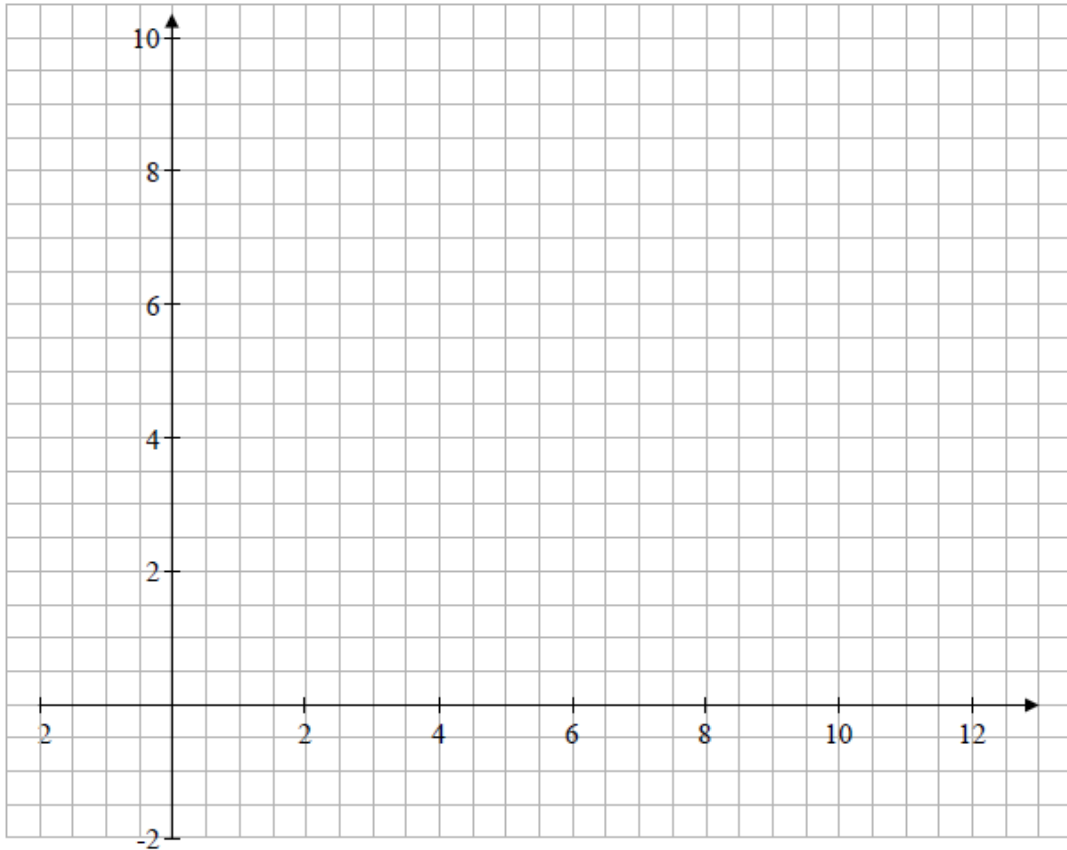
Q13 2012 Paper 2 Sample Paper

Question 13

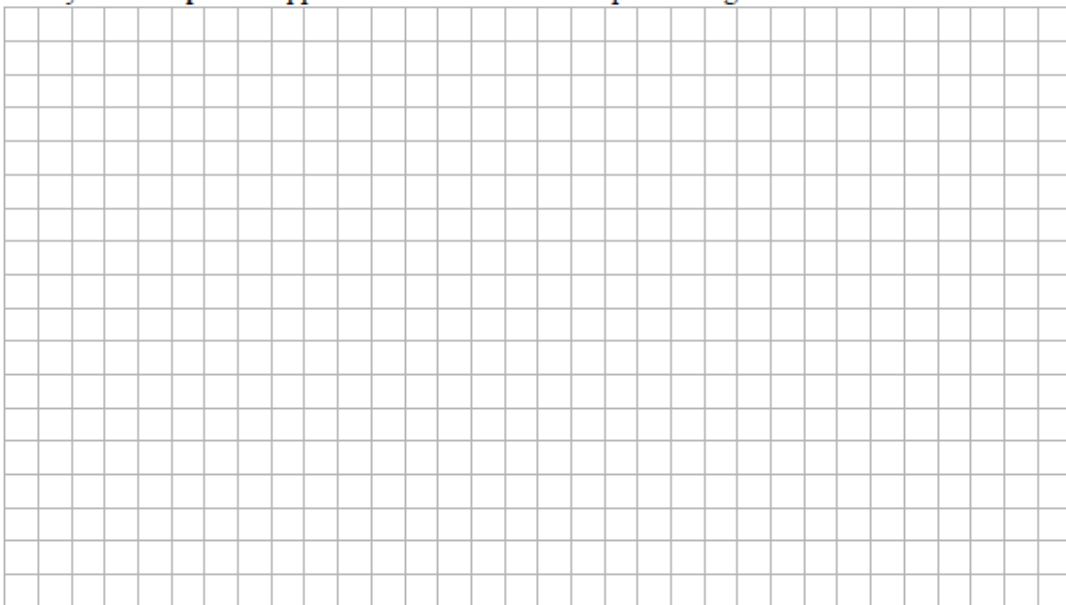
(Suggested maximum time: 10 minutes)

$A(2, 3)$, $B(10, 4)$, $C(12, 9)$, and $D(4, 8)$ are four points.

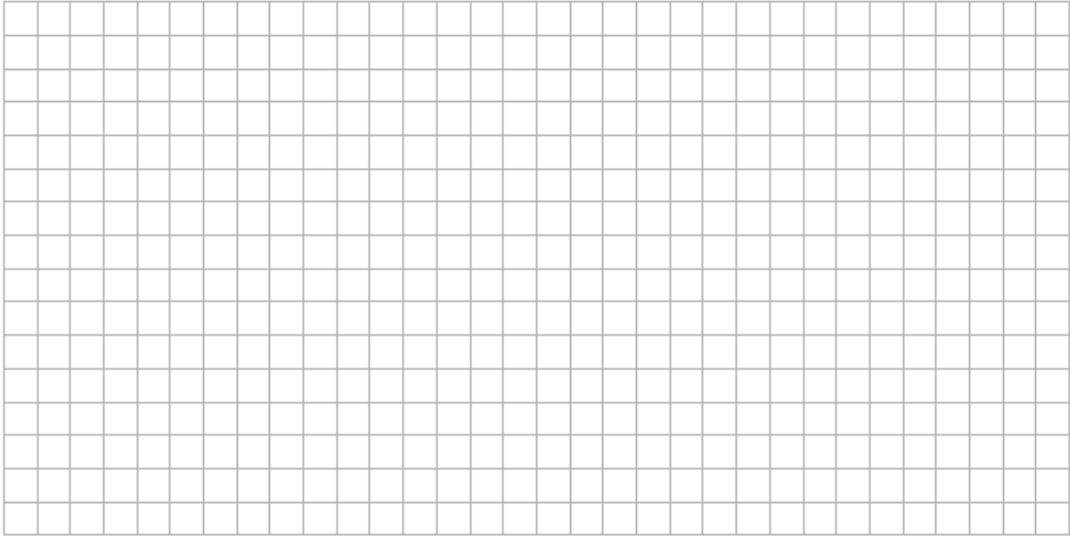
- (a) Plot the points on the coordinate plane below and join A to B , B to C , C to D and D to A to form the quadrilateral $ABCD$.



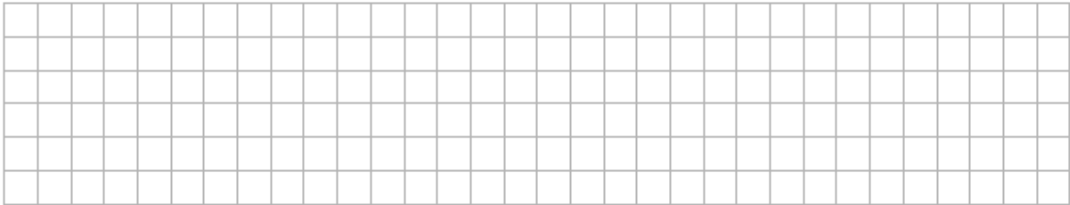
- (b) Verify that one pair of opposite sides of $ABCD$ are equal in length.



- (c) By finding E and F , the midpoints of $[AC]$ and $[BD]$ respectively, verify that the diagonals of $ABCD$ bisect each other.



- (d) Can you now conclude that $ABCD$ is a parallelogram? Give a reason for your answer.



Q14 2012 Paper 2 Sample Paper

Question 14

(Suggested maximum time: 5 minutes)

The point A is shown on the coordinate plane.
The same scale is used on both axes.

- (a) Draw and label a line l_1 through A which has a slope of $\frac{1}{2}$.
- (b) Draw and label a line l_2 through A which has a slope of -2 .

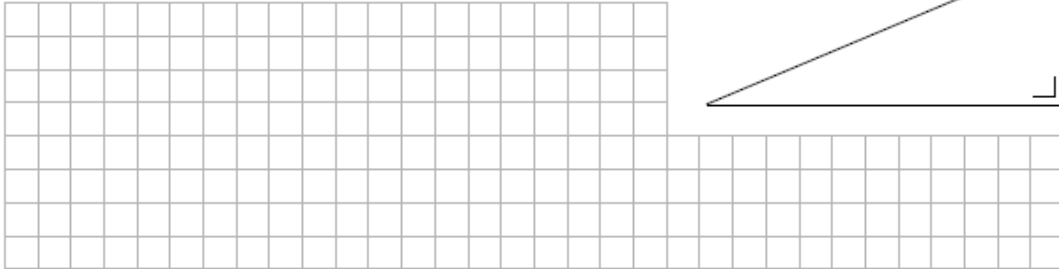
Q17 2012 Paper 2 Sample Paper

Question 17

(Suggested maximum time: 5 minutes)

In the right-angled triangle shown in the diagram, one of the acute angles is four times as large as the other acute angle.

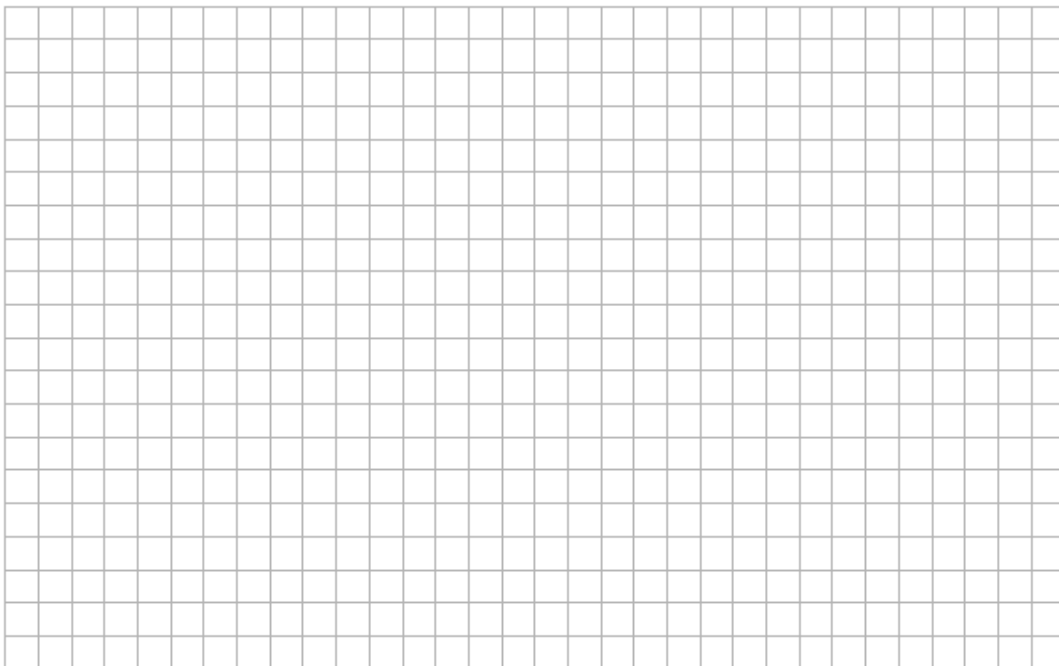
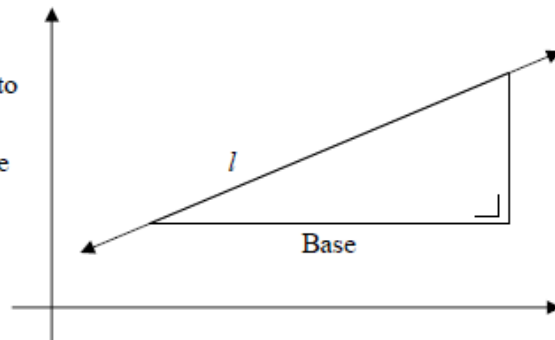
- (a) Find the measures of the two acute angles in the triangle.



- (b) The triangle in part (a) is placed on a co-ordinate diagram. The base is parallel to the x -axis.

Find the slope of the line l that contains the hypotenuse of the triangle.

Give your answer correct to three decimal places.



Q10 2012 Paper 2

Question 10

(Suggested maximum time: 20 minutes)

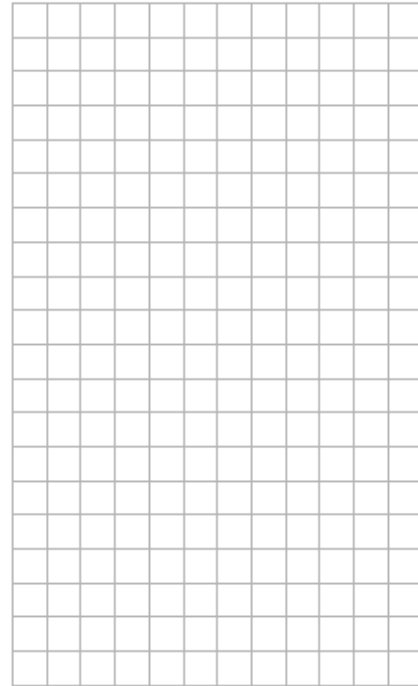
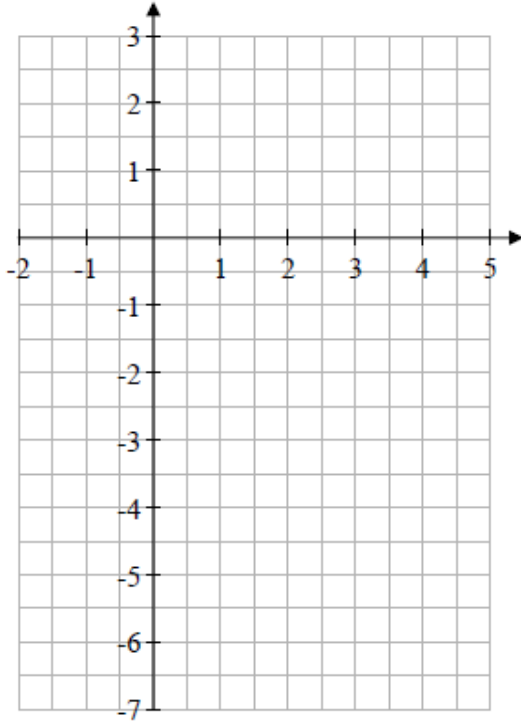
The table below gives the equations of six lines.

Line 1	$y = 3x - 6$
Line 2	$y = 3x + 12$
Line 3	$y = 5x + 20$
Line 4	$y = x - 7$
Line 5	$y = -2x + 4$
Line 6	$y = 4x - 16$

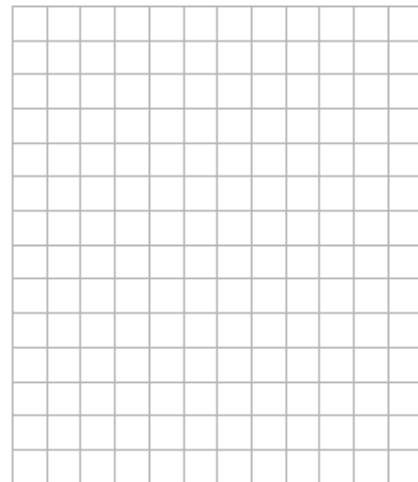
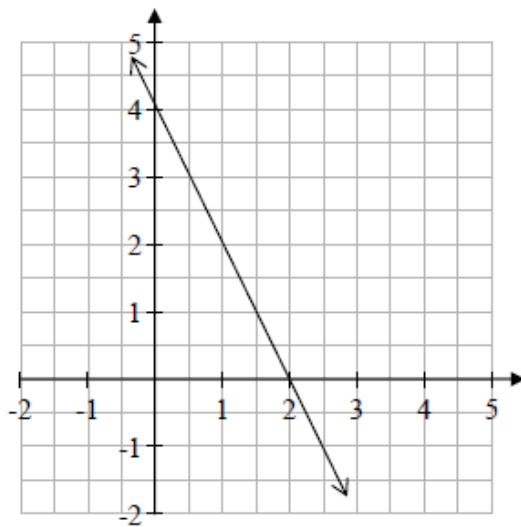
- (a) Which line has the greatest slope? Give a reason for your answer.

- (b) Which lines are parallel? Give a reason for your answer.

(c) Draw a sketch of Line 1 on the axes shown.



(d) The diagram below represents one of the given lines. Which line does it represent?



Answer = Line _____

- (e) The table shows some values of x and y for the equation of one of the lines.
Which equation do they satisfy?

x	y
7	12
9	20
10	24

Answer = Line _____

- (f) There is one value of x which will give the same value of y for Line 4 as it will for Line 6.
Find, using algebra, this value of x and the corresponding value of y .

- (g) Verify your answer to (f) above.